

FIG. 1A – PRIOR ART

FIG. 1B – PRIOR ART

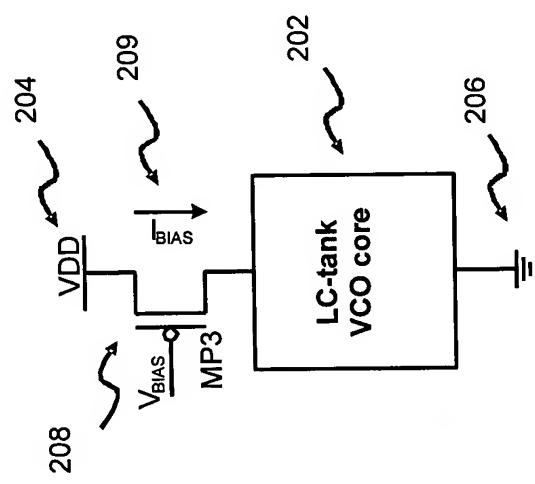
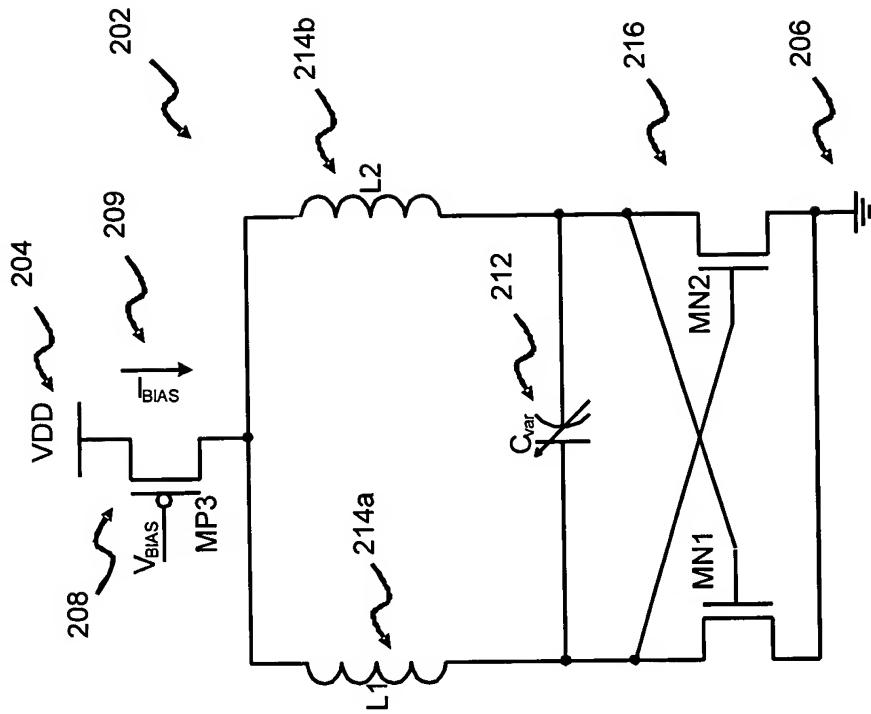


FIG. 2B - PRIOR ART

FIG. 2A - PRIOR ART

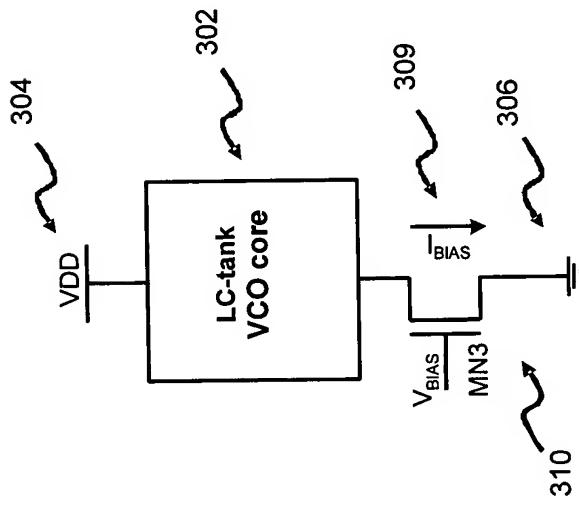
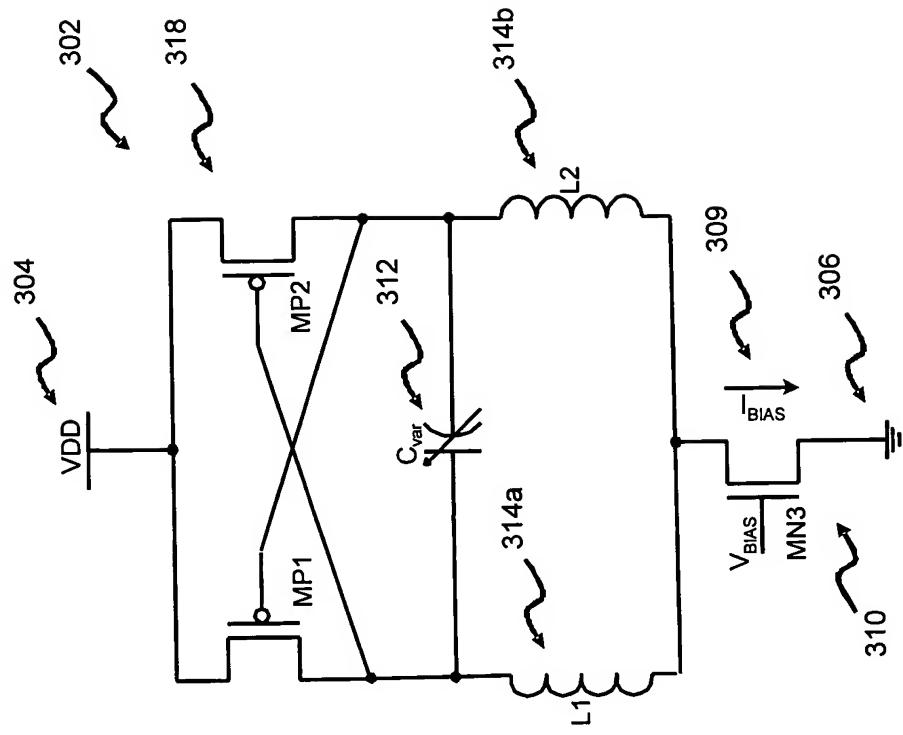


FIG. 3B - PRIOR ART

FIG. 3A - PRIOR ART

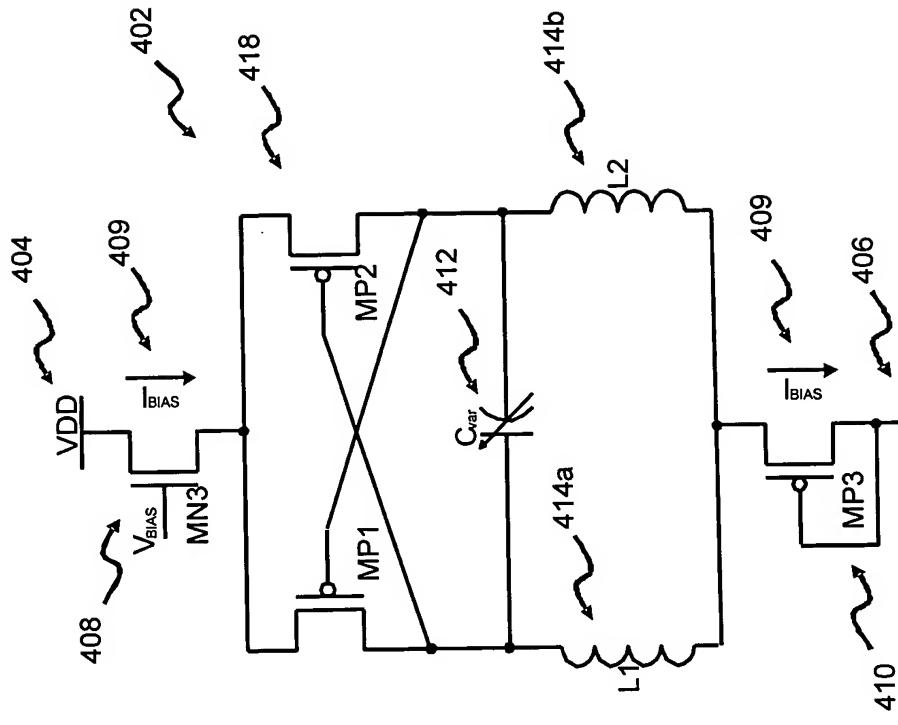


FIG. 4B

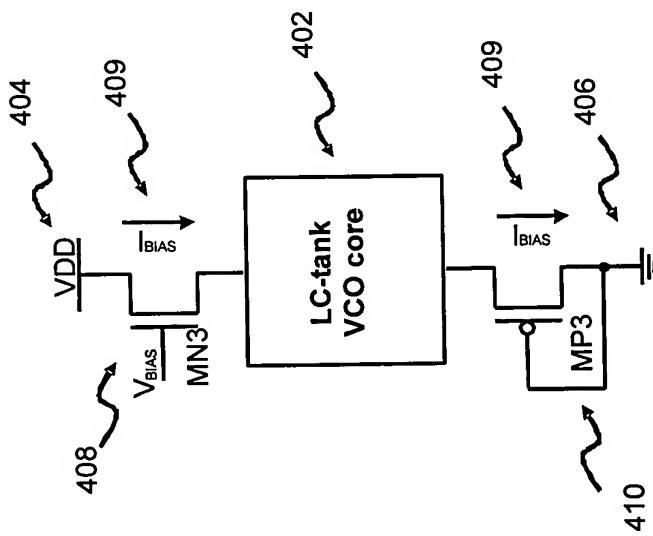


FIG. 4A

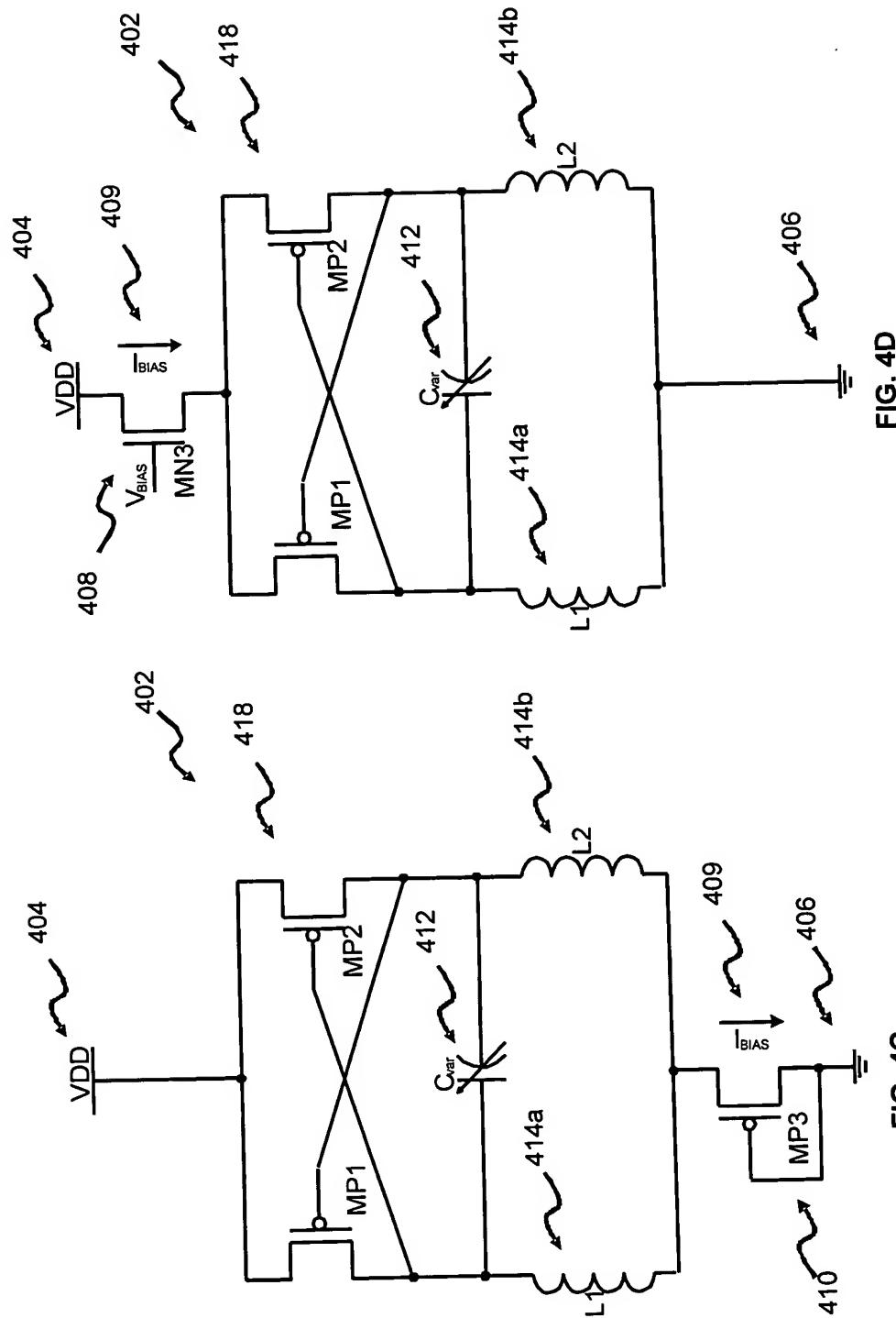


FIG. 4D

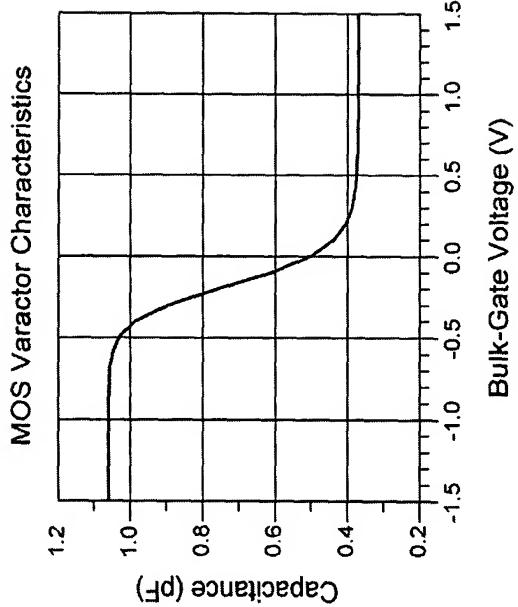
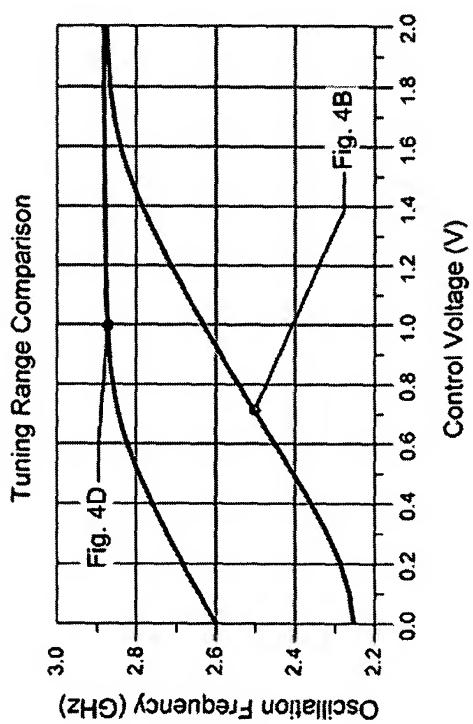
FIG. 4C

Parameters	Simulation Results				Unit
	Fig. 4B (proposed)	Fig. 4 C (proposed)	Fig. 4D (proposed)	Fig.3 (prior art)	
Center Frequency	2.632	2.625	2.784	2.594	GHz
Frequency Tuning Range	23.7	23.9	10.0	25.0	%
Phase Noise at 100KHz offset from Center Frequency	-103.0	-103.4	-97.8	-100.6	dBc/Hz
Frequency Pushing	0.25	16.84	0.14	20.49	%/V
DC Power Current	4	4	4	4	mA
Power Supply	3	3	3	3	V

Table 1: Comparison of different configurations

Transistor Sizes		Frequency Pushing	Comment
Channel Length	Channel Width		
N/A	N/A	16.84%/V	Frequency Pushing is high
0.35 μm	10*85.1 μm	0.47%/V	Frequency Pushing is low and improves with increase in L
0.40 μm	10*448 μm	0.25%/V	
0.45 μm	10*1576 μm	0.15%/V	
0.50 μm	10*3697 μm	0.10%/V	

Table 2: Frequency Pushing vs. Channel Length of transistor MN3 in Fig. 4B. First row corresponds to Fig. 4C.

**FIG. 5B****FIG. 5A**